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PTO/SB/21 (05-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	09/622,500
	Filing Date	August 17, 2000
	First Named Inventor	Padidam
	Art Unit	1638
	Examiner Name	G. L. Helmer
Total Number of Pages in This Submission	Attorney Docket Number	TSRI 615.1

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance communication to Group
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input checked="" type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Status Letter
<input checked="" type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Terminal Disclaimer	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
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<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> CD, Number of CD(s) _____	
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<input type="checkbox"/> Response to Missing Parts/Incomplete Application		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm or Individual name	Michael J. McCarthy, Reg. No. 46,910	
Signature		
Date	July 9, 2003	

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.			
Typed or printed name	Ariel Fletcher		
Signature		Date	July 9, 2003

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PTO/SB/17 (05-03)  
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# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ ) 410.00

## Complete if Known

Application Number	09/622,500
Filing Date	August 17, 2000
First Named Inventor	Padidam
Examiner Name	G. L. Helmer
Art Unit	1638
Attorney Docket No.	TSRI 615.1

## METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 19-0962  
Deposit Account Name:

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments  
☒ Charge any additional fee(s) during the pendency of this application  
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					(\$ )

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims  - 20\*\* =  X  =   
Independent Claims  - 3\*\* =  X  =   
Multiple Dependent  =

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	84	2201	42	Independent claims in excess of 3	
1203	280	2203	140	Multiple dependent claim, if not paid	
1204	84	2204	42	** Reissue independent claims over original patent	
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					(\$ )

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	410.00
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	750	2809	375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) \_\_\_\_\_

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ ) 410.00

## SUBMITTED BY

(Complete if applicable)

Name (Print/Type)	Michael J. McCarthy	Registration No. (Attorney/Agent)	46,910	Telephone	858-784-2937
Signature		Date	July 9, 2003		

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Ariel Fletcher  
Ariel Fletcher

7/9/2003  
Date of Deposit

Applicant: Padidam, et al. )  
Serial No.: 09/622,500 ) Art Unit: 1638  
Filed: August 17, 2000 ) Examiner: G. L. Helmer  
For: RESISTANCE IN PLANTS TO ) Confirmation No.: 8586  
INFECTION BY ssDNA VIRUS USING ) Our Ref.: TSRI 615.1  
INOVIRIDAE VIRUS ssDNA-BINDING )  
PROTEIN, COMPOSITIONS AND )  
METHODS OF USE )

RESPONSE TO RESTRICTION REQUIREMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Responsive to the Restriction Requirement mailed March 25, 2003, Applicants hereby elect, with traverse, claims 1-9 and 16-24 (claim Group I). The Applicants further elect, with traverse, SEQ ID NO:3 as required in the Restriction Requirement. Enclosed is a check in the amount of \$410.00 for a two month extension of time.

07/15/2003 CCHAU1 00000075 09622500

01 FC:1252

410.00 OP

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**REMARKS**

Claims 1-50 are pending.

The Applicants respectfully request reconsideration of the Restriction Requirement in view of the remarks below.

The Examiner issued a restriction requirement alleging five inventions are present in the application as follows:

Group I: claims 1-9 and 16-24;

Group II: claims 1-7 and 10-23;

Group III: claims 25-38;

Group IV: claims 39-45; and

Group V: claims 46-50.

The Examiner further requires that upon electing any of groups 1-V, Applicant must select one sequence from SEQ ID NO:1, SEQ ID NO:2, and SEQ ID NO:3.

The Applicants traverse the present restriction requirement. As required under 37 C.F.R. § 1.499 the Applicants elect, with traverse, claims 1-9 and 16-24 (Group I). As required, Applicants select, with traverse, SEQ ID NO:3.

Inventive Concept Under PCT Rule 13.1

The Examiner alleges in item #1 on page 2 of the Restriction Requirement, that the application contains inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. The Examiner alleges that a "single stranded DNA

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binding protein that complements ssDNA of a geminivurs [sic] and interferes with viral movement is known in the [c]art" and cites Padidam et al., J. Virology, 1999, vol 73, 1609-1616.

The cited Padidam reference is not prior art to the present patent application. The Examiner is directed to the priority claim issued in the filing receipt wherein the present application claims benefit of U.S. Serial No. 60/076,627 filed March 03, 1998. The Padidam reference, which was published in 1999, cannot be prior art to the present application. Because the Padidam reference is not prior art, it cannot serve to remove technical features that define a contribution that the claims of the present application, considered as a whole, make over the prior art. See PCT Rule 13.2.

Restriction: When Proper

"If two or more independent and distinct intentions are claimed in one application, the Director may require the application to be restricted to one of the inventions." 35 U.S.C. § 121.

The Director sets forth the criteria for a proper restriction between patentably distinct inventions in MPEP 803:

- A. The inventions must be independent or distinct as claimed;  
and
- B. There must be a serious burden on the examiner if  
restriction is required.

The MPEP further provides definitions for "independent" and "distinct". See MPEP § 802.01. "The term "independent" (i.e., not dependent) means that there is no disclosed relationship between the two or more subjects disclosed, that is, they are unconnected in design, operation, or effect...". "The term "distinct" means

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that two or more subjects as disclosed are related... but are capable of separate manufacture, use, or sale as claimed, AND ARE PATENTABLE (novel and unobvious) OVER EACH OTHER (though they may each be unpatentable because of the prior art)". Emphasis as set forth in the MPEP § 802.01.

#### Claim Group I

The Applicants respectfully submit that claims 10-15 (included in Group II) should also be included in Claim Group I (claims 1-9 and 16-24) as discussed below. The Examiner sets forth Claim Group I as "claim(s) 1-9 and 16-24 drawn to a method for producing a plant resistant to a ssDNA virus comprising introducing a gene encoding a ssDNA binding protein in a plant". See page 2, item #1 of the Restriction Requirement. Claims 10-15 are directed to the "method of claim 1 wherein said introducing comprises contacting said plant with a composition containing an expression vector capable of expressing said ssDNA-binding protein". See, e.g., claim 10.

The Applicants respectfully submit that one of ordinary skill in the art, in view of the specification and the claims as originally filed, would hold that the subject matter of claims 1-9 and 16-24 (Group I) and claims 10-15 are not independent (they are related).

Specifically, there is a disclosed relationship between the subject matter of claims 1-9 and 16-24 (Group I) and claims 10-15; they are connected in design (e.g., introducing the ssDNA-binding protein into a plant by gene expression), in operation (e.g., binding of ssDNA-binding protein to ssDNA virus), and in effect (e.g., production of resistance to a ssDNA virus in the plant). Thus, claims 1-9 and 16-24 (Group I) and claims 10-15 are not independent.

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Further, the Examiner has not alleged that the subject matter of claims 1-9 and 16-24 (Group I) and claims 10-15 are distinct. If, upon further review, the Examiner wishes to establish that the subject matter of claims 1-9 and 16-24 (Group I) and claims 10-15 are distinct, the Examiner must demonstrate that two or more subjects as disclosed are related and are patentable over each other.

Still further, the Examiner has not demonstrated that there is a serious burden in terms of search and examination. The Examiner alleges on page 5, item #10 of the Restriction Requirement that "these inventions...have acquired a separate status in the art as shown by their different classification...". However, the Examiner has not provided the alleged "different classification". There must be a serious burden on the Examiner if restriction is required (see MPEP 803).

Therefore, the criteria for proper restriction of claims 1-9 and 16-24 (Group I) and claims 10-15 (included in Group II) either have not been met or have not been addressed by the Examiner. The Applicants respectfully request that claims 1-9, 10-15, and 16-24 be combined into a single restriction group reciting claims 1-24.

#### Claim Groups III and IV

The Examiner alleges that Claim Groups III and IV are unrelated. See page 5, item #9 of the Restriction Requirement. The Applicant's respectfully submit that claim Groups III and IV are related. Claim Group III (claims 25-38) is directed to "a DNA expression vector comprising a nucleotide sequence that encodes a ssDNA-binding protein of the Inoviridae virus family, wherein the vector is capable of expressing said protein in plants". Claim Group IV (claims 39-45) is directed to "a composition for

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producing resistance to a ssDNA virus that infects plants comprising an effective amount of a DNA expression vector comprising a nucleotide sequence that encodes a ssDNA-binding protein of the Inoviridae virus family, wherein the vector is capable of expressing said protein in said plants". In view of the disclosure, one of ordinary skill in the art will recognize that the claims are related.

Specifically, there is a disclosed relationship between the subjects of claim Groups III and IV; they are connected in design (e.g., introduces ssDNA-binding protein into a plant by gene expression of the DNA expression vector), in operation (e.g., both the DNA expression vector and the composition comprising the DNA expression vector are capable of expressing the ssDNA protein of the Inoviridae virus family in plants), and in effect (e.g., expressed ssDNA-binding protein produces resistance to a ssDNA virus in a plant). Accordingly, Claim Groups III and IV are not independent.

Further, the Examiner has not alleged that Groups III and IV are distinct. If, upon further review, the Examiner wishes to establish that claim Groups III and IV are distinct, the Examiner must demonstrate that two or more subjects as disclosed are related and are patentable over each other.

Still further, the Examiner has not demonstrated that there is a serious burden in terms of search and examination. The Examiner alleges on page 5, item #10 of the Restriction Requirement that "these inventions...have acquired a separate status in the art as shown by their different classification...". However, the Examiner has not provided the alleged "different classification". There must be a serious burden on the Examiner if restriction is required (see MPEP 803).

Therefore, the criteria for proper restriction of claims 25-



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38 (Group III) and claims 39-45 (Group IV) have not been meet or have not been addressed by the Examiner. The Applicants respectfully request that claims 25-38 (Group III) and claims 39-45 (Group IV) be combined into a single restriction group reciting claims 25-45.

**CONCLUSION**

The Applicants respectfully request reconsideration of the Restriction Requirement. Specifically, the Applicant request that claims 10-15 be included in Claim Group I and that Claim Groups III and IV be combined for the reasons set forth in the remarks above. If the Examiner requires clarification or has questions regarding this matter, the Examiner is encouraged to contact the representative for the Applicants at the phone number listed below.

The Commissioner is hereby authorized to charge Deposit Account No. 19-0962, should any additional fees be required in this application.

Respectfully submitted,

July 09, 2003  
Date

Michael McCarthy  
Michael McCarthy, Reg. No. 46,910

THE SCRIPPS RESEARCH INSTITUTE  
10550 North Torrey Pines Road  
Mail Drop TPC 8  
La Jolla, California 92037  
(858) 784-2937